CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
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A044 Mountain Yellow-legged Frog Rana muscosa
Family: Ranidae Order: Anura Class: Amphibia

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A truly mountain species, the mountain yellow legged frog occurs primarily at elevations above 1800 m (5940 ft) in the Sierra Nevada from Plumas Co. to southern Tulare Co. In the north, a population in Butte Co. is separated from the main Sierra group by the Feather River Canyon. In southern California, isolated populations exist in the San Gabriel, San Bernardino, and San Jacinto Mts. The southern-most group is an isolated population on Mount Palomar in San Diego Co. (Stebbins 1985). Elevation range in the Sierra extends from 1370 m (4500 ft) to over 3650 m (11980 ft) and in southern California from 370 m (1200 ft) to 2290 m (7500 ft) (Jennnings and Hayes 1994). In the Sierra, this species is associated with streams, lakes and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats. In southern California, populations are restricted to streams in ponderosa pine, montane hardwood-conifer, and montane riparian habitats.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Feeds primarily on aquatic and terrestrial invertebrates and favors terrestrial insects. Adults have been observed eating tadpoles of the Yosemite toad (Mullally 1953), and cannibalism in captivity has been reported (Heller 1960). Tadpoles graze on algae and diatoms along rocky bottoms in shallow water of streams, lakes, and ponds.

Cover: Frogs usually crouch on rocks or clumps of grass within a few jumps of water. When disturbed, they dive into water, take refuge under rocks, or rest exposed on the bottom. Less commonly, frogs bury themselves in bottom sediments. During dry conditions they many enter rodent burrows near water.

Reproduction: Eggs are usually laid in shallow water attached to gravel or rocks. Reproduction does not take place until lakes and streams are free of ice.

Water: This aquatic species is always encountered within a few feet of water. Tadpoles may require up to two over-wintering periods to complete their aquatic development (Cory 1962).

Pattern: This species is associated with streams, lakes and ponds in montane riparian, and a variety of other habitats.

SPECIES LIFE HISTORY

Activity Patterns: Terrestrial individuals are primarily diurnal. During winter, adults apparently hibernate beneath ice-covered streams, lakes, and ponds. Terrestrial hibernation has not been reported. In southern California, some individuals aestivate during especially

dry periods of late summer (Mullally 1959).

Seasonal Movements/Migration: Significant seasonal movements or migrations have not been reported for this species.

Home Range: Typical home ranges for this species are probably less than 10 m (33 ft) in the longest dimension. Occasional movements up to 50 m (165 ft) may be associated with habitat deterioration, especially drying.

Territory: Like most ranid frogs, males of this species probably defend areas around themselves during the breeding season (Martof 1953, Emlen 1968). Weak vocalizations are given by males that may function in territorial defense.

Reproduction: Breeding and egg-laying at higher elevations usually occur from June to August depending on local conditions. In southern California, reproduction takes place earlier, from March to May. Roundish clusters of up to 500 eggs (usually 200 to 300) are deposited in shallow water and attached to gravel or submerged rocks. Tadpoles usually over-winter at all localities.

Niche: One of the few high-elevation amphibians of the Sierra Nevada and southern California. Tadpoles of this species may compete for food or space with those of the Yosemite toad and the Pacific treefrog. Adult mountain yellow-legged frogs may also feed on tadpoles of both of these species (Mullally 1953). Adults and tadpoles are commonly preyedupon by garter snakes and introduced trout (Cory 1963, Zweifel 1968).

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